

(No Model.)

L. KNIGHT.

APPARATUS FOR BALANCING PULLEYS.

No. 255,434.

Patented Mar. 28, 1882.

FIG. 1

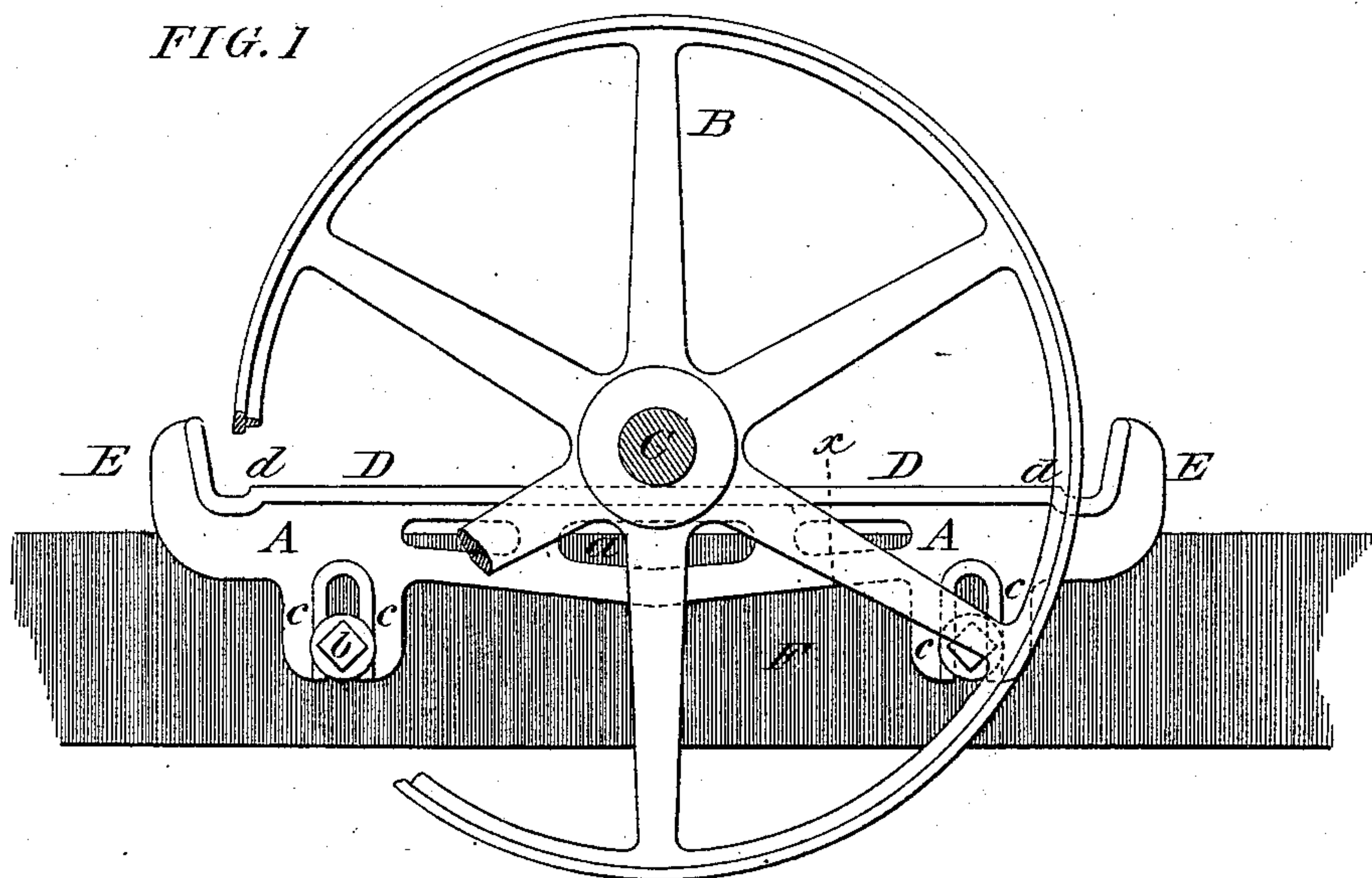
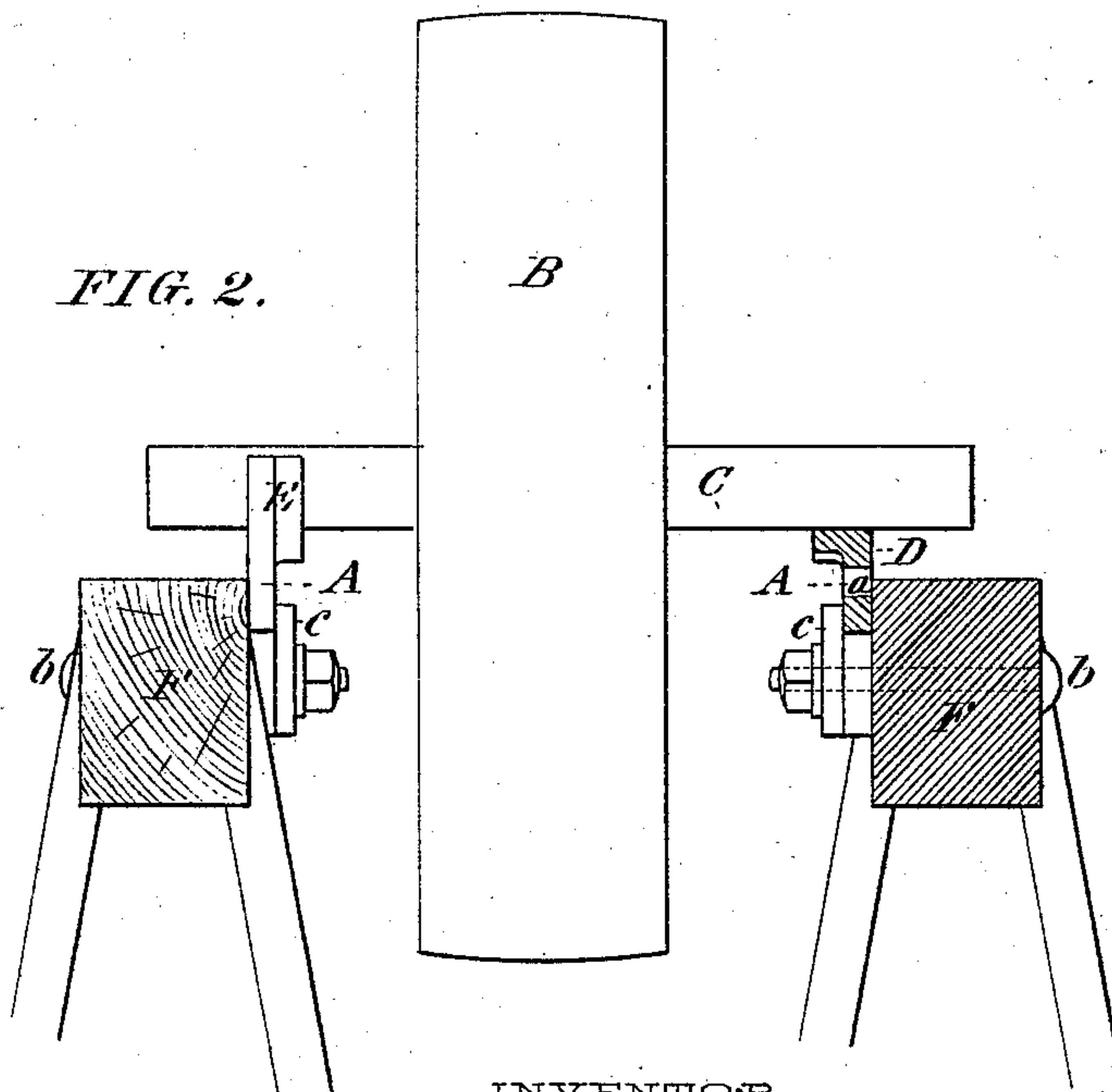


FIG. 2.



WITNESSES,

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# UNITED STATES PATENT OFFICE.

LUTHER KNIGHT, OF BENNINGTON, VERMONT.

## APPARATUS FOR BALANCING PULLEYS.

SPECIFICATION forming part of Letters Patent No. 255,434, dated March 28, 1882.

Application filed July 8, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, LUTHER KNIGHT, of Bennington, in the county of Bennington and State of Vermont, have invented certain Improvements in Apparatus for Balancing Pulleys, of which the following description, in connection with the accompanying single sheet of drawings, constitutes a specification.

This invention consists of two parallel bars of special construction, provided with special means for attaching them to benches or horses, such as are in common use in machine-shops, and for leveling and establishing parallelism between them.

The drawings fully illustrate the invention, wherein Figure 1 exhibits an elevation or side view of one of the parallel bars and shows its mode of attachment to the beam of a horse; and Fig. 2 shows an end view of the left-hand bar and a vertical cross-section of the right-hand bar, taken on the line *x* of Fig. 1.

For the purposes of my invention I construct, usually in cast-iron, a pair of bars of the external configuration shown in Fig. 1, having their upper edges planed straight, as at *D D*, for a distance from *d* to *d*. At either end thereof is turned up an end stop, *E*, which is provided so that the mandrel or arbor on which the pulley is hung cannot run off the ends of the bars *A A*. A part of the web of the bar, at or near each end thereof, is slotted, thus forming two cheek-pieces, *c c*. The bolts *b b* pass through these slots, whereby the bar may be attached to the side of the beam of a horse or other convenient point of attachment. The web of the bar *A* is perforated at its center, as at *a*, thus forming a slot for the admission of the hand—a feature of use in handling the bar in the act of attaching or detaching it from the horse.

The mode of using the bars is as follows: A couple of bolts or lag-screws are passed through or screwed into the beams of the horses *F F*, as at *b b*. The heads thereof protrude sufficiently to receive the cheeks *c c* under their heads. The bolts are then tightened sufficiently to slightly pinch or grasp the slot-cheeks *c c*. The top edge, *D D*, is then leveled,

which is accomplished by rapping one end of the bar *A* either up or down. The edge of the bar on the opposite horse is similarly adjusted and leveled in the same plane of elevation as the one first adjusted. The bolts or screws *b b* are then tightly screwed up and the apparatus is ready for use.

The pulley or wheel to be balanced is mounted on a mandrel or arbor, *C*, in the usual way, and the mandrel laid across the bars *A A*, as shown in Fig. 2. In the event of the mandrel rolling toward the end of the bar by reason of the heavy side of the wheel descending to the lowest point, its progress in such direction is arrested by the mandrel running against the end stop, *E*, provided for that purpose. After attachment to the horses, as above described, the bars so mounted may be conveniently moved or carried about from one part of the shop to another by means of the handle facilities afforded by the middle openings, *a a*, of the bars *A A*.

I claim—

1. In combination with any suitable parallel bar, a bar having a straight upper edge on which the mandrel can roll, and an upwardly-projecting or other suitable end stop at each end of said straight upper edge, provided with means for attachment to a horse or bench and for horizontal or level adjustment, substantially as described, and for the purpose set forth.

2. A parallel bar for balancing pulleys, provided with an upper straight edge having an end stop at each terminus thereof, a central perforation through its body for purposes of handling, and provisions for its attachment to a bench or horse, said last-named provisions being also available to adjust or regulate its level and parallelism with its companion bar, substantially as described and set forth.

In testimony whereof I have hereto subscribed my name this 24th day of January, A. D. 1881.

LUTHER KNIGHT.

In presence of—

FRANKLIN SCOTT,  
CHARLES COOPER.